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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,317	02/09/2004	Fusazumi Masaka	026035-00010	6655

7590 01/11/2006

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EXAMINER

LEWIS, BEN

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,317

Applicant(s)

MASAKA ET AL.

Examiner

Ben Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/20/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Bonsel et al. (U.S. Patent No. 6,197,147 B1).

With respect to claim 1, Bonsel et al teach a process for continuous production of membrane-electrode composites wherein to improve the adhesion and to bond the components, the contacting material or at least one flat face of the membrane or both components can be incipiently dissolved, wetted or incipiently swollen by a solvent or by a polymer solution, and the components, i.e. one or both flat faces of the ion-conductive membrane and at least one electron-conductive contacting material, can then be fitted together by pressing and bonded by lamination (Col 6 lines 34-42).

With respect to claim 2, Bonsel et al teach that for coating, the membrane is taken past the slot die either in the horizontal direction (above or below the die) or in the vertical direction (ascending or descending). In the case of conditioning on both faces of the membrane, the application of the solvent or polymer solution can be carried out

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correspondingly by passing the membrane through by means of two slot dies or by conditioning of the membrane in a dipping bath which contains the solution to be coated (Col 6 lines 64-67 ; Col 7 lines 1-4).

With respect to claim 3, Bonsel et al teach that the coating of the components can be carried out either with pure solvent or with a polymer solution, in which case the polymer concentration can amount to 0 to 100% by weight, preferably 5 to 50% by weight. Preferably, a polymer solution of the polymer forming the ion-conductive membrane is used for coating (Col 6 lines 43-57). Alternatively, the membrane can be coated by taking it past a blade (film casting). The width of the blade is preferably in the range from 0.1 to 5 m with a slot width in the range from 5 to 500 μm . The ribbon speed is in this case especially between 0.5 mm/second and 10 m/second, preferably 5 mm/second to 1 m/second (Col 7 lines 5-10).

With respect to claims 4 and 6, Bonsel et al teach that the ion-conductive membrane is used as a membrane which contains a polymer from the group comprising the polyarylether-ketones, polyarylene sulfides, polyarylether-sulfones, poly-(1,4-phenylene)s and polybenzimidazoles or from the group comprising the sulfonated polyaramides or a completely fluorinated polymer.

With respect to claim 5, Bonsel et al teach that in order to improve the adhesion between the membrane and the contacting material, the membrane can, if appropriate,

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be at least partially plasticized before the lamination process either by swelling in a non-solvent, for example water, acetone, methanol or another aliphatic alcohol, or by swelling in mixtures of a solvent, preferably a predominantly polar aprotic solvent, for example N-methylpyrrolidone (NMP), dimethyl sulfoxide (DMSO), dimethylformamide, g-butyrolactone, or protic solvents such as, for example, sulfuric acid or phosphoric acid or a non-solvent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben Lewis whose telephone number is 571-272-6481. The examiner can normally be reached on 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Ben Lewis

Patent Examiner

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PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER